



Riding the Bus

Getting Kids to School Safely

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Introduction

School bus transportation stirs debate among parents, administrators, and the general public because it directly involves the safety and general welfare of children. Although pupil transportation administrators across the United States have established a reputation of safety, they must examine the issues that not only have the potential to threaten but also enhance school bus safety.

The responsibility of pupil transportation challenges all states in a different way. In Tennessee, policymakers must decide how they will address:

- the use of passenger vans as school bus transportation,
- the installation and use of seat belts,
- the issuance of overload waivers, and
- general safety requirements.

Methodology

The conclusions reached and recommendations made in this report are based on:

1. interviews with and materials from the Tennessee Department of Education and the Department of Safety;
2. information received from the National Highway Transportation Safety Administration (NHTSA);
3. a review of pertinent laws, public acts, NHTSA opinions, newspaper articles, and school bus policies from other southeastern states;
4. a study by the New Jersey Institute of Technology; and
5. The Tennessee Department of Education Annual Statistical Report (1996-97).

State Statutes and Regulations

Tennessee Code Annotated 49-6-2102 directs the State Board of Education to “formulate rules and regulations governing school transportation as needed to protect the lives and welfare of school children.” State Board of Education Guideline 0520-1-5-01 provides that the Department of Education must:

- fund transportation for local school systems;
- maintain counts of the number of children transported;
- compile information such as mileage, the number of pupils transported, and the number of injuries sustained by the pupils.¹ The Department of Education provides this information in “The Annual Statistical Report.”

However, the department has not employed a Pupil Transportation Director for the past three years. The Education Accountability Division within the Department of Education oversees pupil transportation.²

According to the Department of Safety Rules and Regulations Chapter 1340-3-3, the Department of Safety must:

- inspect school buses annually for federal and state compliance,
- provide background checks on school bus drivers, and
- contact drivers who fail to acknowledge a stopped school bus.³

¹ *Tennessee Code Annotated* 49-6-2102.

² Interview with Dr. James Abernathy, State Department of Education, April 22, 1998.

The Department of Safety conducts annual inspections and unannounced inspections of school buses. In 1996-97, the Department of Safety conducted 10,978 school bus inspections and re-inspections. The department inspects each bus manually. It does not use inventory information from a database.⁴ However, the Department of Safety is currently working on a project that would automate the School Bus Inspection Program. The inspectors would use pen-based computers to collect and distribute school bus inspection data. The Department will begin implementing the project on July 1, 1998.⁵

In March and April of 1998, the Department of Safety inspected school buses in 15 school districts without giving the districts prior notice, six in West Tennessee and nine in Middle Tennessee. Seventy-two percent of the buses passed the annual inspection. However, only 51 percent of the buses passed the unannounced inspections. The State Board of Education Rules and Regulations permit the use of the following vehicles as school bus transportation:⁶

- (a) Conventional buses (type C bus-reference page) with 15 years or less of service. After 12 years of service, the Commissioner of Education approves the bus year to year.
- (b) Transit buses (commonly referred to as city buses) with 15 or less years of service.
- (c) Transit buses with 150,000 miles or less of recorded travel and a maximum of 17 years in service.
- (d) Conventional buses remanufactured no later than the tenth or earlier than the seventh year with 15 or less years of service.
- (e) Transit buses remanufactured no later than the fifteenth year nor earlier than the twelfth year with 20 or less years of service.
- (f) Used out-of-state buses with a post April 1, 1977, date of manufacture.⁷

Transportation Funding

Public Chapter 535 establishes pupil transportation as a component of the Basic Education Program (BEP). The commissioner of education formulates funding schedules based on the number of pupils transported, miles transported, and density of pupils per route mile. Based on the BEP formula, the State of Tennessee allocated \$127,530,380 to school districts in 1996-97. The districts actually spent \$161,133,905 for transportation.⁸

Safety Guidelines

The federal government created 57 motor vehicle safety standards (FMVSS) that apply to all vehicles. Thirty-four apply specifically to school buses. They cover emergency exits, fuel system integrity, outside mirrors, and amber and red warning lights. The National Traffic and Motor Vehicle Safety Act of 1966 and the School Bus Safety Amendments of 1974 provided the basis for these provisions.

³ Department of Safety Rules and Regulations Chapter 1340-3-3.

⁴ Interview with Lieutenant Dayle Page, Tennessee Department of Safety, May 13, 1998.

⁵ Tennessee Department of Safety, Pupil Transportation Division.

⁶ Interview with Lieutenant Dayle Page, Tennessee Department of Safety, May 13, 1998.

⁷ State Board of Education Policy Guideline 0520-1-5.

⁸ *A Summary of Tennessee's Public School Systems*, Tennessee Department of Education, 1996-97.

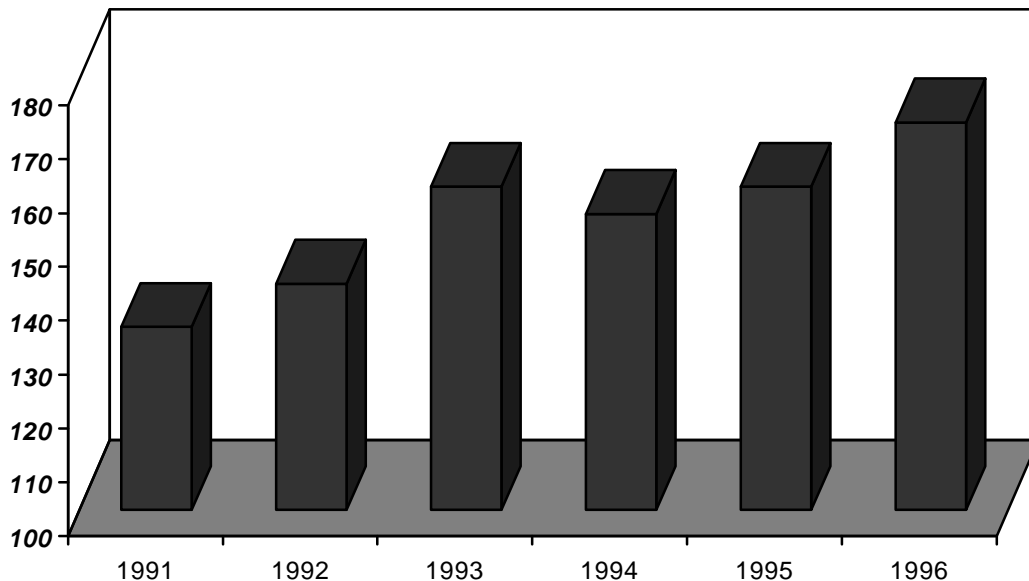
Tennessee Statistics

The State of Tennessee does not have a comprehensive pupil transportation plan. School districts design their own pupil transportation plans.

The Department of Education reported the following data in the *Annual Statistical Report* for school year 1996-97.

- 7,467 school buses transported students (6,844-Type I, 623-Type II- *reference page*)
- 434,438 regular students used pupil transportation
- 11,083 special education students used pupil transportation
- 290 students sustained injuries
- 0 students died⁹

Exhibit 1
Accidents Involving a School Bus in Tennessee from 1991-1996



According to Exhibit 1, the number of accidents rose an annual average rate of 4.75 percent between 1991 and 1996. The number of students in Tennessee schools also rose between 1991-92 and 1996-97, although the growth was only at an average annual rate of 1.4 percent.

⁹ *Tennessee Annual Statistical Report*, Tennessee Department of Education, 1996-97.

Passenger Vans

In Tennessee, the Department of Safety does not currently inspect passenger vans or keep a record of the number of vans that the school districts use. Since the Department of Education does not maintain that data either, neither department can present an accurate count of how many passenger vans the school districts use.

The State Board of Education is considering a proposal to amend Rule 0520-1-5.02 of the State Board of Education Rules and Regulations to include specifications for passenger vans. Public Chapter 562 of 1998 established the legal basis for this rule. The Board would not require that passenger vans be painted school bus yellow. In addition, the vans could be owned and operated by a local education agency (LEA) or for the LEA under a rental or for hire arrangement with respect to a specific activity. The Board would also require the following:

- Van type equipment could transport not fewer than seven nor more than 16 students.
- The Department of Safety must inspect van type equipment annually.
- The driver must possess an endorsed commercial driver's license issued by the Tennessee Department of Safety.
- Local education agencies must furnish evidence of insurance that meets the requirements of *TCA 29-20-101*.
- School districts would not be issued waivers for the use of any van type equipment.¹⁰

The Department of Education discourages the use of nonconforming van-type vehicles. If a school district continues to use these vehicles, the department advises that it secure adequate liability insurance even if the use is only occasional.¹¹

According to the National Highway Transportation Safety Administration (NHTSA), a school bus is any vehicle that can carry more than ten occupants or one that transports pre-primary, primary, or secondary students to and from school related activities. However, state statutes, as in Tennessee, may extend protection to as few as seven passengers.¹² Federal policy allows the sale, purchase, or lease of a passenger van for such purposes, as long as the van complies with the federal structural standards. State law determines whether a school district may use vans to transport school children. In addition, federal law does not require school districts to retrofit vans to comply with federal motor vehicle standards. However, the fact that a school was using a vehicle that was not manufactured, sold, or leased in accordance with federal laws could play a significant role in a lawsuit.

Seat Belts

Federal regulations require that a lap belt or lap/shoulder belt be at all designated seating positions on school buses with a gross vehicular weight rating (GVWR) under 10,001 pounds because small school buses weigh similarly to passenger cars and light trucks.

¹⁰ State Department of Education proposal to amend Rule 0520-1-5.02.

¹¹ Memorandum from Wayne Qualls, former Commissioner to Public School Superintendents/District Directors, Regarding the Use of Van-Type Vehicles, May 10, 1994.

¹² Public Chapter 562, 1998.

Therefore, the issue of whether or not to install seat belts on school buses refers only to vehicles with a GVWR over 10,001 pounds.¹³

Several bills were introduced in Tennessee during the 1998 Legislative Session regarding the installation of seat belts. House Bill 2465/Senate Bill 3000, for example, would have required that all school buses purchased, leased, or contracted for after July 1, 1998, be equipped with safety belts. The fiscal note for this bill estimated a \$600,000 increase in local government expenditures in fiscal year 1998-99. State expenditures for that year would be \$0. Since the BEP funds according to three-year trends, the state would not incur any expenses until fiscal year 1999-00. State expenditures would increase to approximately \$259,000 in fiscal year 2000-01 with a corresponding decrease in local government expenditures.¹⁴

The Pupil Transportation Unit of the Florida Department of Education released a statement in 1997 against the use of seat belts. The National Research Council and the Center for Urban Transportation Research at the University of South Florida validated the agency's stance through recent studies. The studies confirmed the high level of safety provided by compartmentalization. In addition, the studies concluded that the majority of student fatalities actually occur in the loading zone.

Florida has maintained a safe record of school bus transportation. During the last five years in Florida, pupil transportation transported about 900,000 public school students daily, covering a total distance of about one billion miles on 13,000 school buses. During this period, accidents claimed the lives of three students and a teacher. Therefore, Florida has concentrated its resources on driver training, improved mirror systems and other strategies to improve loading zone safety.¹⁵

New Jersey, on the opposite end of the spectrum, has concentrated resources on seat belts since 1992. A 1989 study, commissioned by the State of New Jersey, resolved a 20-year gridlock. The New Jersey Institute of Technology concluded that installing seat belts in Type I and Type II (*refer to Attachment B*) school buses would improve overall safety performance. The PTA in New Jersey and the state Board of Education both support the resulting two-part law.

- **Part one** requires new buses to be equipped with lap belts. It took effect immediately.
- **Part two** requires students to buckle up. The state delayed part two for two years so that it could equip new buses with seat belts. According to the study, retrofitting creates technical problems.

The New Jersey Institute of Technology did not conduct original, intensive research. The group used reports and statistics from secondary sources to make final recommendations.¹⁶

¹³ U.S. Department of Transportation, National Highway Traffic Safety Administration position paper.

¹⁴ Fiscal Note for House Bill 2465/Senate Bill 3000, March 19, 1998.

¹⁵ Florida Department of Education, Pupil Transportation Unit, "Why Aren't School Buses Equipped With Seat Belts," 1997.

¹⁶ New Jersey Department of Law and Public Safety-Division of Highway Traffic Safety, "New Jersey's School Seat Belt Law," October 3, 1994.

The New Jersey Institute of Technology study did remark on the safety record of school bus transportation and the benefits of compartmentalization. However, the study also noted that this mode of transportation has resulted in death, nonetheless. The study instructed policymakers not to expect significant results from the installation of seat belts because the number of injuries and fatalities is small to begin with. The study also promised that seat belts would prevent 0.074 fatalities, five incapacitating injuries, and 21 non-incapacitating injuries each year at a cost of about \$1 million per year.¹⁷

The October/November 1996 edition of *School Bus Fleet* reported that in New Jersey seat belt compliance is high among elementary students, average among middle school children, and low among high school students. Some officials have acknowledged, however, that requiring seat belt use helps ensure that students remain seated during the ride and helps curb disruptive behavior. Therefore, they put themselves in a position to receive the benefits of compartmentalization. Even if students were not wearing their seat belts, standing up would alert the driver of their noncompliance.¹⁸

The following table represents positions taken by the Departments of Education in 13 southeastern states on the issue of seat belt installation and the use of passenger vans to transport students.

Exhibit 2
Positions on Passenger Vans and Seat Belts
13 Southeastern States-as of June 1, 1998

State	Position on Passenger Vans	Position on Seat Belts
Alabama	Allows the use of vans if they have been reconstructed to meet all Alabama and federal school vehicle regulations	Does not require the use of seat belts
Arkansas	Discourages the use of vans because of potential liability- but allowed by law	Does not require the use of seat belts
Florida	Discourages the use of vans because of potential liability- but allowed by law	Does not require the use of seat belts
Georgia	Does not allow the use of passenger vans for the transportation of students to and from school	Does not require the use of seat belts
Kentucky	Discourages the use of vans because of potential liability- but allowed by law	Does not require the use of seat belts
Louisiana	Allows the use of vans provided that they comply with state and federal motor vehicle standards-also cautions about potential liability	Does not require the use of seat belts

¹⁷ New Jersey Institute of Technology, Center for Transportation Studies and Research, "School Bus Safety Belt Study," December 1989.

¹⁸ *School Bus Fleet*, "Strapped for Answers: Are Seat Belts Effective?" October/November 1996.

State	Position on Passenger Vans	Position on Seat Belts
Mississippi	Will not approve the use of non-school bus vehicles if purchased to transport students	Does not require the use of seat belts
Missouri	Does not prohibit the use of any vehicle. Warns school districts of the implications of violating federal standards.	Does not require the use of seat belts
North Carolina	Allows the use of passenger vans in transporting students to and from school related events. Does not allow the use of passenger vans to transports students to and from school.	Does not require the use of seat belts
South Carolina	Refers to the NHTSA position papers which provide that vans carrying 10 or more passengers must meet federal guidelines	Does not require the use of seat belts
Tennessee	Discourages the use of vans because of potential liability-but allowed by law	Does not require the use of seat belts
Virginia	Allows the use of vans may that have been reconstructed to meet all Virginia and federal school vehicle regulations	Does not require the use of seat belts
West Virginia	The law allows the use of passenger vans only when the proper insurance is provided for. However, the board discourages the use of vans because of potential liability.	Does not require the use of seat belts

Source: Telephone survey of 13 southeastern states, April 1998-June 1998.

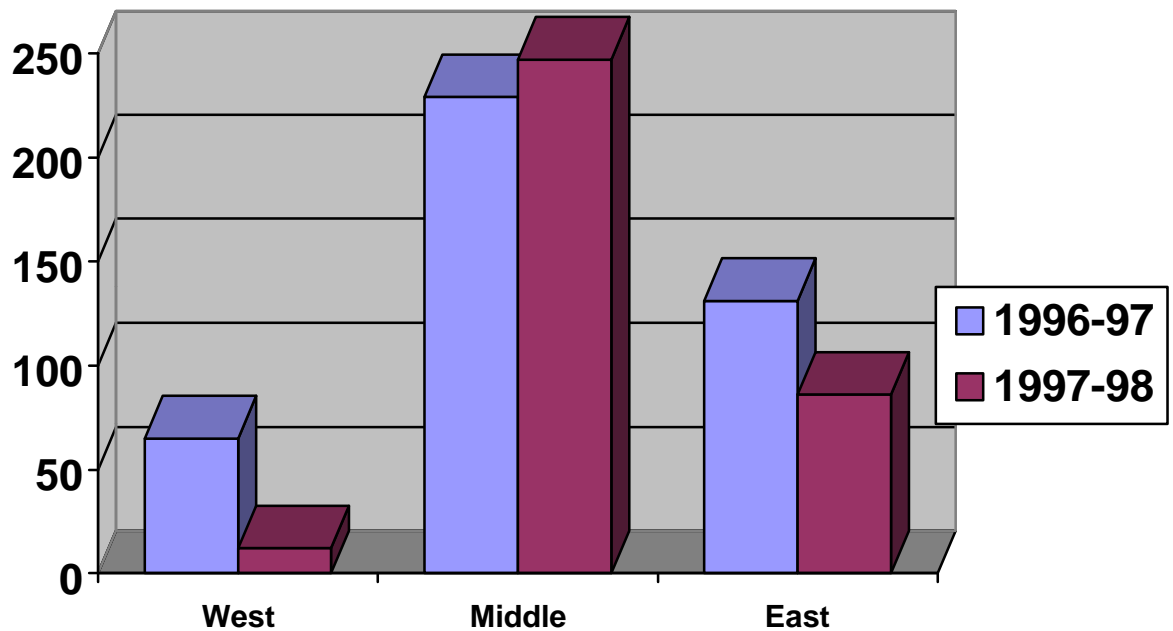
Overloaded Buses

TCA 49-6-2110 provides that “no school bus shall transport more pupils than the manufacturer’s rated capacity for a bus.” It also provides 13 linear inches of space for each student. The Department of Education, however, issues overload waivers. These waivers allow school districts to exceed the manufacturer’s rated capacity by up to 20 percent for one school year. Compartmentalization provides protection to the seated student, but not to the student who stands.

According to Dr. James Abernathy of the Department of Education, the State Board of Education eliminated the rule pertaining to overload waivers in 1992. The Board did not want to replicate the statute regarding this matter. However, *TCA 49-6-2110* states “the commissioner of education may, under rules and regulations prepared by the commissioner and approved by the state board of education, issue permits to a local board of education allowing the number of pupils transported on a school bus to exceed the limit, up to 20 percent.”¹⁹

¹⁹ *TCA 49-6-2110.*

Exhibit 3
Bus Waivers Issued in Tennessee
(by location)



The above chart illustrates the quantity and location in which the Department of Education has issued waivers during the past two school years.

The Departments of Education and Safety are working together to refine the waiver issuance process. The Department of Education issues waivers solely upon request and according to the explanation of need. Callers complain to the Department of Safety more about overloaded buses than any other issue. These calls peak between September and December of each school year. However, neither department monitors the waivers. According to Lieutenant Dayle Page of the Department of Safety, rerouting buses would eliminate 99 percent of all waivers.²⁰

The Department of Education issued 425 overload waivers in 1996-97. Thirty-nine school districts applied for and received waivers. Twenty-nine of these systems served a student population of less than 7,000. The BEP provided the Tennessee school districts an average of 68 percent financial support for both non-classroom and classroom activities. Thirty-three of the systems that received waivers required more than the average amount of support from the BEP. This information suggests that the department often issues waivers to poor and/or rural systems, although the list includes some urban and suburban systems.²¹

²⁰ Interview with Lieutenant Dayle Page, Tennessee Department of Safety, May 13, 1998.

²¹ *A Summary of Tennessee's Public School Systems*, Tennessee Department of Education, School Year 1996-97.

Exhibit 4
The Number of Waivers Issued by System
1996-97

Bedford	40	Greene	7	Montgomery	3
Benton	2	Hardeman	7	Morgan	10
Blount	9	Hawkins	11	Polk	8
Bradley	7	Haywood	22	Sequatchie	2
Campbell	4	Hickman	4	Smith	2
Cannon	2	Jackson	2	Sullivan	1
Cheatham	3	Johnson	4	Sumner	2
Chester	18	Knox	30	Covington	7
Cocke	12	Lawrence	13	Trousdale	13
Cumberland	4	Loudon	3	Washington	6
Davidson	3	Lenoir City	2	White	30
Dickson	10	McMinn	1	Wilson	86
Grainger	12	McNairy	9	Lebanon	14

North Carolina pupil transportation eliminated this problem with the Transportation Management Information Systems (TIMS). The state requires each school district to purchase the TIMS system. The system configures route schedules and bus sizes by geocoding each route into a spatial database.

TCA 49-6-2110 provides 13 inches of linear space for each child. This space allocation generally accommodates three elementary school age children or two high school age children. A seat belt requirement would either eliminate the problem of students standing on school buses because each student would be confined to his or her seat or result in more students standing because of limited seating. However, seat belts cannot substitute for a well-prepared routing plan. In both cases, school systems would have to provide additional buses to ensure protection for all students.

Conclusions

School bus transportation is one of the safest forms of transportation. According to the NHTSA, school bus related transportation has operated at a level distinctly better than other forms of transportation. Over 400,000 fatal traffic accidents occurred between 1985 and 1995 involving all types of vehicles. School bus transportation accounted for less than 0.3 percent of those. Only 11 percent of the victims actually occupied the school bus.

“Compartmentalization” protects the passengers.

- This is an energy-absorbing, passive occupant protection system.
- The metal surfaces are covered with energy-absorbing padding.
- This system utilizes high and thick seatbacks.
- The seats contain an inner steel structure that bends forward to help absorb energy when a child is thrown against it.
- The seats are anchored to the floor strongly enough that it will not pull loose during this bending action
- The seats are 24 inches apart in order to provide optimal cushioning.

Large and small school buses employ compartmentalization. The NHTSA and the National Association of State Directors of Pupil Transportation Services endorse this mechanism. In addition, studies from the National Transportation Safety Board and the National Academy of Science confirm its effectiveness.

Other states have taken various positions on the installation of seat belts on school buses.

Proponents provide the following arguments in favor of seat belts:

- Teaching children to buckle up in automobiles or any other vehicles reduces needless fatalities and injuries.
- Use of seat belts in school buses reinforces the educational messages aimed at school-age youngsters and has a carryover effect.
- Passive compartmentalization between well-padded seats does not provide adequate protection in side impact or rollover collisions.²²

Opponents of the installation of seat belts on school buses provide the following arguments.

- Seat belts may prevent rapid egress from a bus in the case of a bus fire or sinking into a body of water.
- Putting seat belts in a school bus does not guarantee that students will use them.
- Children receive a negative message if seat belts are available but usage is not enforced.
- A child who does not buckle up may cause additional injury to a child seated in front of him.
- Bus drivers may be distracted from the driving duties to enforce seat belt usage.
- The loose belts and buckles may injure children.

²² New Jersey Institute of Technology-Center for Transportation Studies and Research, “School Bus Safety Belt Study,” December 1989.

In addition, retrofitting creates technical problems. The installation of seat belts may require that bus owners modify the floorboards in older school buses. In the event of an accident, a student wearing a seat belt would exert more pressure on the floorboard to which his or her seat is attached. A seat belt would fail to protect students if the floorboard cannot sustain the additional pressure. A plate may have to be added to provide additional bracing.²³

The statutes allow the commissioner of education to grant waivers through rules and regulations promulgated by the State Board of Education. However, because the related rules and regulations were abolished, the commissioner should seek legal counsel to determine whether the school systems may request such waivers and whether the department may grant them.

Thirty-nine school districts in Tennessee transport students who ride standing on 425 buses. Compartmentalization does not protect students who are standing. Therefore, school districts assume greater risk for those students than students who are seated. In addition, no one monitors for compliance during the year.

The use of passenger vans creates a potential liability for school systems that use them. Pupil transportation administrators across the southeast discourage the use of these vans although the statutes in their states may allow the use of such vehicles.

School districts in Tennessee that receive overcrowding waivers will submit a rerouting plan to the Department of Safety for school year 1998-99. According to Lieutenant Dayle Page of the Department of Safety, each district must implement its plan to reduce overcrowding within 30 days upon receiving the waiver. In the past, the districts used the waivers for an entire school year without attempting to resolve the problem of overcrowding.

No federal regulations or standard industry practices adequately address the safety issues involved with transporting pre-kindergarten children on school buses. According to the 1995 National Standards on School Transportation, schools must transport pre-kindergarten students, because of their size, in a car seat. While suitable for cars, these seats do not provide adequate protection on school buses. In fact, the compartmentalization mechanism that organizations like NHTSA endorse for conventional-age school children creates problems for those needing child safety seats. The NHTSA is developing guidelines for transporting pre-kindergarten children on school buses.

Legislative Recommendations

- If the General Assembly chooses to require the installation of seat belts, the statute should also include a provision that each student be required to wear the seat belt.
- The General Assembly may wish to consider whether school buses should carry assistants to enforce the seat belt policy.

²³ Interview with Lieutenant Dayle Page, Tennessee Department of Safety, May 13, 1998.

Administrative Recommendations

- School districts should consult with their attorneys and insurance companies to make sure that their insurance covers the liability after an accident involving a passenger van.
- The Department of Safety should examine the market for routing systems.
- The Commissioner of Education should seek legal counsel to determine whether school systems may request waivers and whether the department may grant them.